CLAIMS

1. A method for data transmission in a cellular telecommunication system, in which system

data are transmitted in units of bursts, each burst occupying a time slot (TS[j]) of one of consecutive frames (F[i]),

each respective frame comprising a predetermined number (n) of time slots (TS[j], j=[0, ..., n-1]), and,

within a single time slot (TS[j]) of each frame (F[i]), data can be transmitted between a first transceiver device (BS) and a respective one of a plurality of second transceiver devices (MS) in a first transmission direction (DL) from said first transceiver device (BS) to said respective second transceiver device (MS) or in a second transmission direction (UL) from said respective second transceiver device (MS) to said first transceiver device (BS), wherein

during a first frame (F[i]) of consecutive frames

respective second transceiver devices (MS) perform transmission with said first transceiver device (BS) during a time slot (TS[k]) assigned thereto for transmission, and

during a subsequent second frame (F[i+1]) of said consecutive frames,

respective second transceiver devices (MS) perform transmission with said first transceiver device (BS) during a different time slot (TS[l]) assigned thereto for transmission,

with $0 \leq k, l \leq n-1$ and $k \neq l$.

2. A method for data transmission in a cellular telecommunication system according to claim 1, wherein transmission between said first transceiver device (BS) and a respective second transceiver device (MS) occurs

in said first direction (DL), in predetermined and fixed time slots (TS[j]) in each of consecutive frames (F[i], F[i+1]), and

in said second direction (UL), in different time slots (TS[k],TS[l]) in each of consecutive frames (F[i], F[i+1]).

3. A method for data transmission in a cellular telecommunication system according to claim 1, **wherein** transmission between said first transceiver device (BS) and a respective second transceiver device (MS) occurs

in said second direction (UL), in predetermined and fixed time slots (TS[j]) in each of consecutive frames (F[i], F[i+1]), and

in said first direction (DL), in different time slots (TS[k],TS[l]) in each of consecutive frames (F[i], F[i+1]).

4. A method for data transmission in a cellular telecommunication system according to claim 1, **wherein** transmission between said first transceiver device (BS) and a respective second transceiver device (MS) occurs

in said first direction (DL), in different time slots (TS[k],TS[l]) in each of consecutive frames (F[i], F[i+1]), and

in said second direction (UL), in different time slots (TS[k'],TS[l']) in each of consecutive frames (F[i], F[i+1]).

5. A method for data transmission in a cellular telecommunication system according to any preceding claim, **wherein**

transmission between said first transceiver device (BS) and respective second transceiver devices (MS) occurs in said first direction (DL), in a first number of different time slots, and in said second direction (UL), in a second number of different time slots, said first and said second number being chosen such that the sum of said first and

second number is less or equal to the number (n) of time slots with a frame.

6. A method for data transmission in a cellular telecommunication system according to any preceding claim, **wherein**
frames are transmitted using a frequency of available frequencies, and the used frequency is selectively changed.

7. A method for data transmission in a cellular telecommunication system according to any preceding claim, **wherein**
the frames are defined according to TDMA standard.

8. A method for data transmission in a cellular telecommunication system according to any preceding claim, **wherein**
within each TDMA time slot code division (CDMA) can be applied between users.

9. A radio transceiver device adapted to operate according to the method as defined in any of the preceding claims 1 to 8.

10. A method for data transmission in a cellular telecommunication system, in which system

data are transmitted in units of bursts, each burst occupying a time slot (**TS[j]**) of one of consecutive frames (**F[i]**),

each respective frame comprising a predetermined number n of time slots,

characterized in that

within a single time slot (**TS[j]**) of each frame (**F[i]**), data can be transmitted between a first transceiver device (**BS**) and a respective one of a plurality of second transceiver devices (**MS**) in a first transmission direction (**DL**) from said first transceiver device (**BS**) to said respective second transceiver device (**MS**) or in a second transmission direction (**UL**) from said respective second transceiver device (**MS**) to said first transceiver device (**BS**) opposite to a transmission direction in another time slot of the same frame (**F[i]**) in which data can is transmitted between said first transceiver device (**BS**) and another one of said second transceiver devices, wherein

during a first frame (**F[i]**) of consecutive frames

respective second transceiver devices (**MS**) perform transmission with said first transceiver device (**BS**) during a k^{th} time slot (**TS[k]**) assigned thereto for transmission, and

during a subsequent second frame (**F[i+1]**) of said consecutive frames,

respective second transceiver devices (**MS**) perform transmission with said first transceiver device (**BS**) during a different 1^{th} time slot (**TS[l]**) assigned thereto for transmission,

with $0 \leq k, l \leq n-1$ and $k \neq l$.

ii. A method for data transmission in a cellular telecommunication system, in which system

data are transmitted in units of bursts, each burst occupying a time slot (**TS[j]**) of one of consecutive frames (**F[i]**),

each respective frame comprising a predetermined number n of time slots,

characterized in that

within a single time slot (**TS[j]**) of each frame (**F[i]**), data can be transmitted between a first transceiver device (**BS**) and a respective one of a plurality of second transceiver devices (**MS**) in a first transmission direction (**DL**) from said first transceiver device (**BS**) to said respective second transceiver device (**MS**) or in a second transmission direction (**UL**) from said respective second transceiver device (**MS**) to said first transceiver device (**BS**) opposite to a transmission direction in another time slot of the same frame (**F[i]**) in which data can is transmitted between said first transceiver device (**BS**) and another one of said second transceiver devices, wherein

transmission between said first transceiver device (**BS**) and a respective second transceiver device (**MS**) occurs

in said first direction (**DL**), in predetermined and fixed time slots (**TS[j]**) in each of consecutive frames (**F[i]**, **F[i+1]**), and

in said second direction (**UL**), during a first frame (**F[i]**) of consecutive frames

respective second transceiver devices (**MS**) perform transmission with said first transceiver device (**BS**) during a k^{th} time slot (**TS[k]**) assigned thereto for transmission, and

during a subsequent second frame (**F[i+1]**) of said consecutive frames,

respective second transceiver devices (**MS**) perform transmission with said first transceiver device (**BS**) during a different 1^{th} time slot (**TS[1]**) assigned thereto for transmission,

with $0 \leq k, 1 \leq n-1$ and $k \neq 1$.

12. A method for data transmission in a cellular telecommunication system, in which system

data are transmitted in units of bursts, each burst occupying a time slot (**TS[j]**) of one of consecutive frames (**F[i]**),

each respective frame comprising a predetermined number n of time slots,

characterized in that

within a single time slot (**TS[j]**) of each frame (**F[i]**), data can be transmitted between a first transceiver device (**BS**) and a respective one of a plurality of second transceiver devices (**MS**) in a first transmission direction (**DL**) from said first transceiver device (**BS**) to said respective second transceiver device (**MS**) or in a second transmission direction (**UL**) from said respective second transceiver device (**MS**) to said first transceiver device (**BS**) opposite to a transmission direction in another time slot of the same frame (**F[i]**) in which data can is transmitted between said first transceiver device (**BS**) and another one of said second transceiver devices, wherein

transmission between said first transceiver device (BS) and a respective second transceiver device (MS) occurs

in said second direction (UL), in predetermined and fixed time slots (TS[j]) in each of consecutive frames (F[i], F[i+1]), and

in said first direction (DL) during a first frame (F[i]) of consecutive frames

respective second transceiver devices (MS) perform transmission with said first transceiver device (BS) during a k^{th} time slot (TS[k]) assigned thereto for transmission, and

during a subsequent second frame (F[i+1]) of said consecutive frames,

respective second transceiver devices (MS) perform transmission with said first transceiver device (BS) during a different 1^{th} time slot (TS[1]) assigned thereto for transmission,

with $0 \leq k, 1 \leq n-1$ and $k \neq 1$.

13. A method for data transmission in a cellular telecommunication system according to claim 1,

characterized in that

transmission between said first transceiver device (BS) and a respective second transceiver device (MS) occurs

in said first direction (DL), in different time slots (TS[k],TS[1]) in each of consecutive frames (F[i], F[i+1]),

and

in said second direction (UL), in different time slots (TS[k'],TS[1']) in each of consecutive frames (F[i], F[i+1]).

14. A method for data transmission in a cellular telecommunication system according to any preceding claim,

characterized in that

transmission between said first transceiver device (BS) and respective second transceiver devices (**MS**) occurs in said first direction (**DL**), in a first number of different time slots, and in said second direction (**UL**), in a second number of different time slots, said first and said second number being chosen such that the sum of said first and second number is less or equal to the number n of time slots within a frame.

15. A method for data transmission in a cellular telecommunication system according to any preceding claim, **characterized in that** frames are transmitted using a frequency of available frequencies, and the used frequency is selectively changed.

16. A method for data transmission in a cellular telecommunication system according to any preceding claim, **characterized in that** the frames are defined according to TDMA standard.

17. A method for data transmission in a cellular telecommunication system according to any preceding claim, **characterized in that** within each TDMA time slot code division (CDMA) can be applied between users.

18. A radio transceiver device adapted to operate according to the method as defined in any of the preceding claims 1 to 8 either as first or as second transceiver device.